

## ABSTRACT

*Salacca zalacca* (Salak Pondoh) has a long germination period due to the hard seed dormancy. This study aims to evaluate the effects and interactions of various scarification methods in breaking the dormancy of Salak Pondoh seeds. The research was conducted at the Agroecotechnology Laboratory of the Faculty Agriculture, Universitas Malikussaleh, and in Tambon Tunong Village, Dewantara District, North Aceh Regency. The method used was a Randomized Block Design (RBD) consisting of two factors with three replications. The first factor was mechanical scarification (M0=control, M1=sanding, M2=piercing), while the second factor was chemical scarification using gibberellin at concentrations of K0=0 ppm, K1=20 ppm, and K2=30 ppm. The observed parameters included maximum germination potential (%), germination rate (%), growth rate (%), uniformity of growth (%), and plumule length (cm). The results showed that mechanical scarification significantly improved all parameters, with the best treatment being sanding (M1). Chemical scarification with gibberellin also significantly increased maximum germination potential, germination rate, growth rate, uniformity of growth, and plumule length, with the optimal concentration at 30 ppm (K2). There was a significant interaction between mechanical scarification and chemical treatment using gibberellin, with the best combination found in sanding and 30 ppm gibberellin (M1K2). In conclusion, scarification is effective in enhancing the maximum germination potential, germination rate, growth rate, uniformity of growth, and plumule length of *Salacca zalacca* seeds.

**Keywords:** *Salacca zalacca*, Mechanical Scarification, Chemical Scarification, Germination